REMARKS

Claims 1-23 were presented for examination. The Examiner has rejected all claims. In view of the remarks below, reconsideration and further examination are respectfully requested.

Claim Rejections – 35 USC § 102 and 35 USC § 103

Claims 1-9, 11-15, 18, 19 and 21-23 are rejected under 35 USC § 103 as being unpatentable over U.S. Patent No. 6,167,114 (Siochi) in view of U.S. Patent No. 5,160,847 (Leavitt et al.). Claims 10, 16 and 17 were rejected under 35 USC § 103 as being unpatentable over Siochi in view of Leavitt, and further in view of the Karlsson article cited by applicants. Claim 20 is rejected under 35 USC § 102 (b) as being anticipated by Leavitt.

Claim 1 is directed to a "radiation therapy device" including "a radiation source positioned to direct a beam along a beam path toward a treatment area", "a treatment head containing a first collimator controllable to selectively collimate said beam", and "a second collimator removably positioned between said first collimator and said treatment area and controllable to selectively collimate said beam". Thus claim 1 recites two controllable collimators including a second collimator that is removably positioned between the first collimator and a treatment area.

In explaining the rejection of claim 1 under § 103, the Examiner stated that Siochi teaches a therapy apparatus that includes an electron gun, a waveguide electron accelerator 14, a movable target 17 for emitting x-ray photons, a collimator 19 and an accessory holder 21. The Examiner further stated that Leavitt teaches a multileaf electron collimator configured to be inserted or removed from a standard therapy machine accessory holder 4. Finally, the Examiner asserted that it "would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the Leavitt collimator in the Siochi accessory holder since that was its disclosed purpose."

Applicants agree with the Examiner's statements in regard to the individual teachings of the two references, except that applicants respectfully differ with the Examiner's characterization of what was the "disclosed purpose" of Leavitt's removable collimator. Leavitt teaches that the removable dynamic collimator thereof can be removably attached to a therapy device in the same manner as fixed collimation plates and blocks (see col. 3, lines 61-64). But nowhere does

Leavitt state that the intended purpose of the removable dynamic collimator is to be attached to a therapy machine that already has a dynamic collimator permanently installed within the treatment head. That is, at no point does Leavitt teach or suggest that the removable dynamic collimator is to be attached to a therapy machine as a second controllable collimator in the beam path. Moreover, the references relied upon by the Examiner do not teach or suggest any reason why one of ordinary skill would be motivated to provide a therapy machine having two controllable collimators. Rather, it is respectfully submitted that one of ordinary skill would (unless guided by the teachings of the present application) be disinclined to incur the cost of a second, removable dynamic collimator in a case where the therapy machine has a permanently installed dynamic collimator included therein. This is particularly true since the references relied upon by the Examiner do not indicate any advantage to be gained by providing two dynamic collimators. (Although Leavitt could be read to suggest that a removable dynamic collimator be provided instead of a permanently installed dynamic collimator; see col. 3, lines 36-52.)

Thus Siochi discloses a therapy device having one permanently-installed controllable collimator. Leavitt discloses a therapy device having one removable, controllable collimator. The references, whether taken individually or in combination, do not teach or suggest a therapy device having two controllable collimators, as recited in claim 1.

For the foregoing reasons, it is respectfully submitted that the Siochi and Leavitt references cannot properly be combined to produce the claimed therapy device which includes two controllable collimators, and it is therefore requested that the rejection of claim 1 be reconsidered and withdrawn.

Claims 2-13 are directly or indirectly dependent on claim 1 and are believed to be patentable on the same basis as claim 1.

The next independent claim, which is claim 14, also recites a therapy device having two controllable collimators, and is therefore believed to be patentable for the reasons given above in regard to claim 1. Claims 15-18 are directly or indirectly dependent on claim 14 and are submitted as patentable for the same reason.

Claim 19 recites a therapy device which includes a photon collimator and an electron collimator. Since the references do not teach or suggest two separate collimators for respectively collimating a photon beam and an electron beam, claim 19 is also believed to be patentable.

Deferring for a short time discussion of claim 20, and turning rather to claim 21, the latter claim, like claim 1, recites a therapy device having two controllable collimators. Accordingly, claim 21 is believed to be patentable for the same reasons stated above in regard to claim 1.

Claims 22 and 23 are both independent method claims that recite selectively controlling a first collimator and selectively controlling a second collimator. Since the references fail to teach or suggest a controlling two different collimators, claims 22 and 23 are also believed to be patentable.

Claim 20, which is rejected as anticipated by the Leavitt reference, is directed to "[a]n electron collimator for use in collimating an electron beam in a radiation therapy device". The electron collimator of claim 20 is recited to include "drive electronics, removably mounted on an exterior of an accessory tray of said radiation therapy device" and "a plurality of leaves positionable by said drive electronics to move across a path of said electron beam". The plurality of leaves are "removably mounted on said accessory tray of said radiation therapy device".

Applicants wish to particularly point out that the drive electronics of the electron collimator recited in claim 20 are specifically described as "removably mounted on an exterior of an accessory tray" of the radiation therapy device. This specific feature is not disclosed or suggested by the Leavitt reference, and is advantageous, because greater durability of the drive electronics is provided by mounting the drive electronics away from the beam path of the therapy device, as explained at page 12, lines 19-24 of the present application.

In responding to applicants' previous arguments regarding claim 20, the Examiner has now particularly referred to the drive electronics of Leavitt mounted on board 61 (Fig. 3), which the Examiner notes is mounted in a plane perpendicular to the travel of vanes 40/41. From this the Examiner concludes that the board 61 "therefore is located outside the open end of accessory holder 4". Applicants respectfully traverse this characterization of Leavitt.

If one considers Leavitt as a whole, and particularly considers Figs. 2 and 3 thereof together, it clearly appears that all components shown in Fig. 3 are contained within the housing of collimator 5 that is shown in Fig. 2 (no separate reference numeral for the housing is provided in the specification or drawings of Leavitt). It is noted that no physical support for the components is shown in Fig. 3, which appears to be an exploded view without the housing of the collimator. Contrariwise, in Fig. 2, all components of collimator 5, except the housing itself, are

portrayed as being contained within the housing. Moreover, when the collimator 5 is installed in the mount assembly 4 of the linear accelerator 1, all of the collimator 5, including the housing and the drive electronics, is mounted in the interior of mount assembly 4. Applicants therefore respectfully urge that, contrary to the Examiner's assertion, the drive electronics on board 61 are mounted inside the housing of collimator 5 and also inside the accessory mount assembly 4, not "outside the open end of the accessory holder [mount assembly] 4".

Accordingly, it is respectfully submitted that Leavitt fails to anticipate the claimed feature of "drive electronics, removably mounted on an exterior of an accessory tray". It is therefore respectfully requested that the rejection of claim 20 be reconsidered and withdrawn.

This point also provides an additional basis of patentability for claim 18.

CONCLUSION

For at least the foregoing reasons above, it is submitted that all of the claims are in condition for allowance and the Examiner's early re-examination and reconsideration are respectfully requested. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is cordially requested to contact the undersigned.

Respectfully submitted,

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